DOCUMENT RESUME

ED 281 119 CG 019 853

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TITLE Facilitation and Interference in College Roommate Relationships: An Index of Compatibility.
PUB DATE 25 Aug 86
NOTE 21p.; Paper presented at the Annual Convention of the American Psychological Association (94th, Washington, DC, August 22-26, 1986).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College Housing; *College Students; Females; Higher Education; *Interpersonal Attraction; *Interpersonal Relationship
IDENTIFIERS *Compatibility (Social); *Roommates

ABSTRACT

Compatibility has recently been conceived as the degree to which partners either facilitate or interfere with each other's interaction goals. Compatability is thus perceived as an on-going process, rather than an end state. A study was conducted to develop an index of compatibility based on pair interaction, where compatibility is conceived as the degree to which partners facilitate each other's goals (Levinger & Rands, 1985). For two semesters, 13 female roommate pairs weekly reported their two most important relationship interactions and filled out a variety of questionnaires assessing similarity, conflict, emotional involvement, satisfaction, and leisure time. A Facilitation/Interference (F/I) Ratio was created from ratings of the weekly events to represent roommates' compatibility, and this index was compared to two other measures of compatibility, Demographic Similarity and Personal Similarity. By second semester, compatible roommates, based on the F/I Ratio and Personal Similarity, reported their conflicts to be fewer in number, less frequent, less important, and less intense than did incompatible roommates. They also reported fewer unilateral problem-solving attempts, more satisfaction with the roommate, and more leisure time spent together than did incompatible roommates. (Questions regarding the measure and method are explored and future directions suggested.) (Author/NB)

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ED281119

FACILITATION AND INTERFERENCE IN COLLEGE ROOMMATE RELATIONSHIPS: AN INDEX OF COMPATIBILITY

CG 019853

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Poster presentation, American Psychological Association 94th Annual Convention, Washington, D.C., August 25, 1986.

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Facilitation and Interference in College Roommate Interaction: An Index of Compatibility

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Abstract

The major goal of this study was to develop an index of compatibility based on pair interaction, where compatibility is conceived as the degree to which partners facilitate each other's goals (Levinger & Rands, 1985). For two semesters, thirteen female roommate pairs weekly reported their two most important relationship interactions and filled out a variety of questionnaires assessing similarity, conflict, emotional involvement, satisfaction, and leisure time. A Facilitation/Interference (F/I) Ratio was created from ratings of the weekly events to represent roommates' compatibility, and this index was compared to two other measures of compatibility, Demographic Similarity and Personal Similarity.

By second semester, compatible roommates, based on the F/I Ratio and Personal Similarity, reported their conflicts to be fewer in number, less frequent, less important, and less intense. They also reported fewer unilateral problem-solving attempts, more satisfaction with the roommate, and more leisure time spent together than incompatible roommates.

Questions regarding the measure and method are explored and future directions suggested.

FACILITATION AND INTERFERENCE IN COLLEGE ROOMMATE INTERACTION: AN INDEX OF COMPATIBILITY

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What does it mean to say a relationship is compatible or incompatible? Most of us would describe a compatible relationship as one where partners "get along well," referring implicitly to the quality of interaction between two persons. Yet until recently compatibity has been defined in variables external to the relationship itself, such as the partners' demographic similarity, as individual attitudes or values, or in the matching of partners' psychological needs. A more direct measure of compatibility, one that accords better with our naive conception of "getting along well", would be an assessment of the partners' ongoing interaction, the microlevel of interpersonal behavior. Taking this view, compatibility has recently been conceived as the degree to which partners either facilitate or interfere with each other's interaction goals (Levinger & Rands, 1985). Compatibility is thus conceived as an on-going process, rather than an end state.

The present study attempts to derive a measure of compatibility based on the degree of facilitation and interference in partners' interactions. This index, along with more traditional similarity indices of compatability, was correlated with relationship variables, such as emotional involvement, conflict and conflict resolution, and relationship satisfaction.

The observations were made of college roommate pairs in their first year at Wheaton College, a small liberal arts college for women located in a rural area south of Boston.

Kelley and his colleagues (Kelley, Berscheid, Christensen, Harvey, Huston, Levinger, McClintock, Peplau, & Peterson, 1983) have recently presented a framework for the study of close relationships which focuses on the microlevel of ongoing interaction. When two partners interact, discrete changes in one or both persons' thoughts, feelings, or behaviors can be noted as a result of that interaction. For example, one person's criticism can lead to angry words from the other and subsequent bad feelings in each partner. Or a smile from one partner can lead to a feeling of pleasure that results in a hug and a thought of appreciation. This perspective emphasizes the immediate or short-term dynamics of interdependence.

In an analysis that is compatible with Kelley's, Ajzen and Fishbein (1980) have shown that microlevel variables exert a more direct influence on behavior than do macrolevel ones (Ajzen & Fishbein, 1980). For example, a worker's feelings or thoughts about his boss's current criticism of his work are much better predictors about what action he will take on his job than are their shared interest in golf. Similar values, interests, background or other features of a relationship are macrolevel "causal conditions" (Kelley, et al., 1983) that may indirectly affect interpersonal processes, but it is the microlevel of

immediate interaction itself, the "event" level of thoughts, feelings, and behavior, that best predicts current behavior. Variables can thus be seen to lie on a continuum from macrolevel to microlevel; the closer to the microlevel end of this continuum, the better the variable should be for making predictions about relationship outcomes (Ajzen & Fishbein, 1980).

Two examples of research at the microlevel of analysis are those of Raush and his colleagues (Raush, Barry, Hertel, & Swain, 1974) and of Gottman (1979). Raush et al. (1974) coded direct observations of couple interaction during role play of conflict situations, looking for patterns of conflict resolution and communication. This analysis revealed that "discordant" pairs differed from "harmonious" pairs in their patterns of conflict. Harmonious pairs showed two patterns: some were adept at confronting each other about their conflict, whereas others kept peace by avoiding confrontation. Discordant couples also showed two patterns: some would attack and counterattack, others would initially avoid confrontation, but later launch a coercive and hostile attack. Although this study did not examine ratios of facilitative to interfering acts, it did assess overall frequency of behaviors (e.g., compromising versus attacking).

Gottman's (1979) research also focuses on the microlevel of interaction. By observing interaction between spouses, Gottman found that partners in "distressed" marriages--as compared with those in "nondistressed" marriages--show more negativity and less

positivity in their emotional interchanges, especially in their nonverbal behavior, and they show more reciprocity of negative emotions. By coding both verbal and nonverbal cues, Gottman was able to assess not only overt behavior, but also thoughts and feelings. He found, for example, that all spouses engage in "mindreading;" however, distressed spouses' mindreading implies criticism, whereas nondistressed spouses use mindreading as a way to understand the other's feelings. These two studies focus on the extreme microlevel end of the macro-microlevel continuum of variables.

A microlevel measure of compatibility, then, would be based on discrete interchanges between partners. Ideally, it would code actual sequences of thoughts, feelings, and behaviors. The current index is a compromise, located at a medium level of analysis. It is more microlevel than similarity indices, for it relies on roommates' weekly reports of interaction, yet it is more global than focused observations of behavior (e.g., Gottman, 1979; Raush et al., 1974). Specifically, the measure of compatibility derived here is a faciliation/interference (F/I) ratio calculated from each respondent's report of her most significant interactions with her roommate. The F/I Ratio was based on the relative frequency of positive and negative events for two semesters. Thus, a high F/I Ratio (high compatibility) reflects a high proportion of positive interaction.

Two traditional measures of similarity were also calculated, one based on demographic, the other on personal similarity; demographic similarity is more macrolevel than personal similarity. Similarity is conceived as a relationship condition that can affect interaction; thus roommates may find that their similarity makes it easy for them to get along.

The three measures of compatibility were compared on the strength of their associations with other indices of relationship, such as emotional involvement, conflict and conflict resolution, and relationship satisfaction. It was expected that the F/I ratio would show the highest correlations with these variables, with personal similarity next, followed by demographic similarity, corresponding to their position on the microlevel-macrolevel continuum. This prediction accords with the Ajzen and Fishbein (1979) argument that microlevel variables are better predictors than macrolevel ones, and with the Kelley et al. (1983) conception that interaction affects relationship conditions (i.e., satisfaction) more than do other stable conditions (i.e., demographic similarity). Since the F/I Ratio is based on interaction, it should be a better predictor than Personal or Demographic Similarity.

The study was primarily exploratory, however. Its chief aims were to develop a way to calculate an F/I ratio, to see how this ratio correlated with other measures of compatibility and with relationship outcomes, and to explore its usefulness in other studies.

Method

Respondents

Twenty-four freshwomen roommate pairs at Wheaton College were randomly selected to participate in this study. The data presented are based on 13 pairs who completed the study for two semesters during the academic year 1984-85. Roommate assignments at Wheaton are based on students' similarity in responses to questions regarding smoking and drinking, study habits, overnight guests, and so on. Typically roommates do not know each other before rooming together.

Procedure

For eight weeks each semester, participants independently completed a weekly questionnaire that asked for a detailed description of "the two most important events that occurred between you and your roommate during the past week."

Toward the end of each semester, participants also rated their conflict with their roommate (its type, frequency, importance, and intensity), and their emotional involvement (self-disclosure, caring, attachment). Other measures assessed ways of dealing with specific conflicts, demographic and personal similarity, and a variety of other issues. Each roommate was paid $20 for her participation.

Measures

Three measures of compatibility were calculated: the F/I Ratio, Demographic Similarity, and Personal Similarity. The F/I

Ratio was based on individual reports of the most significant interactions with their roommate (two per week for eight weeks each semester). Roommates rated each event for its degree of positivity or negativity on a 7-point scale ranging from -3 (very negative) to +3 (very positive). The number of positive events was the measure of facilitation, whereas the number of negative events was the measure of interference. Neutral events were ignored. The F/I Ratio was calculated by dividing the number of positive events by the sum of both positive and negative events (F/F+I). The denominator (F+I) can be conceived as relationship intensity, and so the ratio is actually the proportion of positive interactions within a sample of intense interactions. The higher the F/I Ratio, the more positive the interaction.

Separate indices were calculated for each semester, to see how first semester interaction compared to second second semester. The average F/I score was .27 each semester, yet the Pearson correlation between the two semesters was only .22 (n.s.), indicating that interaction patterns were not necessarily similar across time for specific partners.

Demographic similarity was calculated by summing the number of demographic items on which subjects reported similarity. There were 11 items on the questionnaire (type of high school, religion, ethnic background, race, birth order, male sibling, female sibling, father's SES and education, mother's employment status and education. Demographic similarity ranged from 3 to 7 items, with a median of 4.5.

Personal similarity was calculated by summing a number of personal items on which respondents reported similarity. There were eight items (sexual preference, age, high school GPA, popularity, being typical Wheaton students, being a jock, scholar or both, dependence on parents, activity level at Wheaton). Personal similarity was calculated for each semester, since some of these factors could change; however, there was no difference between means (5.5 each semester) and the correlation was high (r = .53, df = 24, p < .003), so only first semester ratings are used here.

Conflict between roommates was measured with a "Problem Inventory" (modified from Levinger, Hickman, & Rezig, 1983) that asked for judgments about the number, frequency, and importance of 24 areas of potential conflict common to roommate relationships (e.g., sharing things, whether a boyfriend should stay overnight, respecting privacy, and so on). Four variables were calculated: "Number of Conflict Areas" is the count of items on which a roommate reports conflict (0-24). "Frequency of Conflict" was rated for each item on a 5-point scale from 0 (never) to 4 (very often); scores were summed and could range from 0 to 96. "Importance of Conflict" was rated on a 3-point scale ranging from 1 (not important) to 3 (very important); scores were summed and could range from 1-72. "Intensity of Conflict" was calculated by summing the products of the Frequency and Importance ratings. Ratings were made once each semester, and thus represent a global, macrolevel, index of conflict.

Emotional involvement was measured once each semester. This score is based on a 21-item involvement scale (modified from Levinger, Rands, & Talaber, 1977; and Rubin, 1974). These items represent intimacy, self-disclosure, and caring; they were rated on 9-point scales ranging from 0 (disagree completely) to 9 (agree completely). Scores could range from 0 to 189.

Roommates were asked to estimate the number of hours of leisure time they spent together with their roommate each week. The average amount of leisure time together did not increase significantly over the two semesters (25.77 hours versus 22.54 hours). The correlation between the two semesters was .38 ($df = 24$, $p < .03$), indicating that roommates continued to spend about the same amount of time together after the semester break as before.

Roommates were asked to rate their satisfaction with their roommate as a roommate on a 5-point scale ranging from 0 (not at all satisfied) to 4 (very satisfied). Satisfaction did not change across semesters, averaging 3.69 in the fall and 3.58 in the spring. These measures were positively correlated ($r = .33$, $df = 24$, $p < ,05$).

Results

Associations among Measures of Compatibility

The F/I Ratio was not correlated with Demographic Similarity. It was, however, positively associated with Personal

Similarity for both semesters (Semester 1: r = .36, df = 24, p < .04; Semester 2: r = .57, df = 24, p < .001). Note that the correlation gets stronger as time goes on.

Personal Similarity and Demographic Similarity were not correlated at either time point.

Compatibility and Conflict

Table 1 shows how the three compatibility measures are associated with roommate conflict. Because of the exploratory nature of this study, p levels of .10 or smaller are reported. The second semester F/I Ratio was strongly associated with conflict for both first and second semesters; roommates with a low F/I Ratio report more conflict. Personal Similarity also showed this pattern: those roommates with little personal similarity reported more conflict during the second semester.

Why does this correlation occur during the second semester and not the first? One explanation might be that by second semester these freshmen students have settled into college life. They feel more in control of the academic parts of their life, and can now turn their attention to their relationship with their roommate. During the first semester, both compatible and incompatible roommates experienced conflict; by the second semester, those roommates who were more compatible began to deal more effectively with their roommate and reduce their conflict, whereas those who were less compatible experienced an increase.

This speculation is supported by a comparison of means. Although number of conflict areas did not change from first to second semester (4.84 versus 6.34), Frequency of Conflict showed a tendency to increase (11.53 versus 14.66, t = 1.56, p < .08), Importance of Conflict showed a tendency to increase (7.50 versus 10.73, t = 1.67, p < .10), and Intensity of Conflict increased significantly (10.31 versus 18.77, t = 2.33, p < .03). Over time, less compatible roommates (those with less personal similarity or those with a low F/I Ratio) experienced more conflict. This finding shows the importance of looking at the changes in interpersonal relationships over time, and not just at one time point.

Table 1
Correlations between Conflict and Compatibility

Conflict Index	Semester	Measure of Compatibility: F/I Ratio (Semester 2)	Personal Similarity	Demographic Similarity
Number of Conflicts	1	-.37 (.03)[a]	--	--
	2	-.38 (.03)	-.40 (.02)	--
Frequency of Conflict	1	-.27 (.10)	--	--
	2	-.35 (.04)	-.42 (.01)	--
Importance of Conflict	1	-.33 (.05)	--	--
	2	-.38 (.03)	-.49 (.02)	--
Intensity of Conflict	1	--	--	--
	2	-.36 (.04)	-.46 (.009)	--

[a] The number in parentheses is the probability value for the Pearson correlation (n = 26).

It is interesting to note that there are no associations with Demographic Similarity. This macrolevel variable may be too distant on the continuum for us to measure its effects on conflict.

Compatibility and Problem-Solving

The compatibility indices were related to different problem-solving strategies. It was assumed that compatibility would be positively associated with joint problem solving strategies (both partners work toward a solution), and negatively associated with unilateral strategies (only one partner attempts a solution) or avoidance. Table 2 shows limited support for this assumption. Compatible roommates with a high F/I ratio at Semester 2 or high personal similarity were less likely to rely on unilateral problem-solving strategies. There was no indication, however, that they were more likely to use joint problem-solving or to avoid confrontation.

There was no association between Demographic Similarity and problem-solving.

Table 2

Correlations between Compatibility and Problem-Solving

Problem-Solving Strategy	Semester	Index of Compatibility: F/I Ratio (Semester 2)	Personal Similarity	Demographic Similarity
Joint Problem-Solving	1	--	--	--
	2	--	--	--
Unilateral Problem-Solving	1	-.35 (.04)[a]	--	--
	2	-.40 (.02)	-.49 (.005)	--
Avoidance	1	--	--	--
	2	--	--	--

[a] The number in parentheses is the probability value for the Pearson correlation (n = 26).

Compatibility and Emotional Involvement

It was assumed that compatible roommates would show greater emotional involvement with their roommate. This was supported, though only for second semester and only for the F/I Ratio and for Personal Similarity (see Table 3). This is interesting when we note that average emotional involvement decreased across the two semesters (139.19 versus 129.62, $t = 2.01$, $df = 25$, $p < .06$).

Table 3
Correlations between Compatibility and Relationship Variables

Outcome Variables	Semester	Measures of Compatibility: F/I Ratio (Semester 2)	Personal Similarity	Demographic Similarity
Emotional Involvement	1	--	--	--
	2	.44 (.01)[a]	.28 (.08)	--
Satisfaction with Roommate	1	--	--	--
	2	.29 (.07)	.43 (.01)	--
Leisure Time Together	1	.37 (.03)	.28 (.08)	.52 (.003)
	2	.33 (.05)	--	--

[a] The number in parentheses is the probability value for the Pearson correlation (n = 26).

Compatibility and Satisfaction with the Roommate

It was assumed that compatible roommates would rate themselves as more satisfied with their roommate than would incompatible ones. This was supported, but only in the second semester and only for the F/I Ratio and Personal Similarity (see Table 3).

Compatibility and Leisure Time Together

It was assumed that compatible roommates would spend more of their leisure time together than incompatible ones. This was supported on all three indices of compatibility, especially during Semester 1 (see Table 3). It is interesting to note that those who are demographically or personally similar spend more time together during the first semester, but not the second, whereas the F/I Ratio predicts time together second semester, as

well. Over the long run, the quality of everyday interaction is more important than demographic factors in promoting interaction.

Discussion

The findings from this study provide support for defining compatibility in terms of interaction. The F/I Ratio showed logically consistent correlations with a number of relationship variables. Based on this measure, compatible respondents reported fewer conflict areas, and their disagreements were less frequent, less important, and less intense than incompatible respondents. They also reported fewer unilateral problem-solving strategies, more emotional involvement, greater satisfaction with their roommate, and more leisure time together. These findings describe our intuitive notions about a "compatible relationship."

Further support for the predictive potential of this measure is provided by the number of significant correlations for the F/I Ratio (13 out of 20), compared to Personal Similarity (8 out of 20) and Demographic Similarity (1 out of 20). This supports the prediction made at the beginning of the study that the more microlevel the variable, the more effective it would be for predicting behavior or other relationship outcomes.

Several questions remain to be answered. It is an empirical question whether the F/I Ratio was created at the "best" level, or whether a more finely calculated measure would be more powerful. Perhaps the procedure for collecting data and calculating the measure could be simpliefied; for example, is 16

the ideal number of events, or could we create an effective F/I Ratio with fewer events? In this study, only the second semester measure was correlated with outcome variables, and the first semester measure provided little information, but perhaps that was an artifact of studying developing relationships between Freshwomen roommates and not more naturally occurring relationships.

The technique needs to be tried with larger and different samples. A larger sample would give more confidence in the findings, as well as allow more sophisticated regression analyses to uncover the causal paths in these intriguing data. Other samples could test for the usefulness of the measure for relationships varying in duration, closeness, sex or age composition, role relations, temporary versus permanent relationships, and so on. Will the measure associate as well with marital conflict as roommate conflict, for example?

The calculation of the F/I Ratio itself will receive further scrutiny. One drawback of the current procedure is that it drops neutral events. Theoretically, a neutral event could be facilitating in that interaction runs smoothly, but unremarkably. It was difficult to find a logical way to incorporate neutral events, however, so they were dropped out. Perhaps a scale without a neutral point would eliminate this problem.

The F/I Ratio needs to be tested in combination with other relationship variables. Many factors affect outcomes in any

human engagement. One factor that is important for understanding relationship processes in addition to compatibility, is relationship closeness. A relationship can be compatible (i.e., show a high proportion of positive events, a high F/I Ratio), yet may not be emotionally close. One roommate, for example, may appreciate it that the other stays out of her way and doesn't disturb her study; she may consider her a good roommate, yet feel little emotional bond. Or a relationship could be highly interfering, yet close. For example, roommates who argue a great deal may maintain a strong emotional bond. Various combinations of compatibility and emotional closeness would describe different kinds of relationships that could be equally satisfying (see Levinger, & Rands, 1984, p. 321).

One interesting observation was the change in patterns of correlations across the two semesters. Clearly, relationships are constantly changing, responding to the partners' satisfactions or disappointments in achieving their goals at different stages, or changing in response to external factors. The F/I Ratio of compatibility, because it is based on specific interaction, shows potential for understanding dynamic changes in relationships across time.

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